DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-010395
Date Inspected: 11-Nov-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name:	Chen Xi			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Electrode to specification:	☐ Yes	☐ No	☑ N/A	**Weld Procedures Followed:**	☐ Yes	☐ No	☑ N/A	
Qualified Welders:	☐ Yes	☐ No	☑ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A	
Approved Drawings:	☐ Yes	☐ No	☑ N/A	**Approved WPS:**	☐ Yes	☐ No	☑ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: OBG Crossbeams

Summary of Items Observed:

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

The following is a weekly summary of the status of each of the crossbeams currently completed or under construction.

OBG CROSS BEAM CB1

This crossbeam was brought back to the dock for ABF and Caltrans (CT) QA to perform Ultrasonic Testing (UT) scanning pattern “D” per AWS D1.5 2002 figure 6.7 to detect transverse indications in the Complete Joint Penetration (CJP) corner joints. CT QA inspectors performed D scan UT of deck panel to side panel welds. No transverse indications were detected. Two class A longitudinal indications were found. CT D scan is incomplete. This QA is aware of 4 incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB2

This crossbeam was brought back to the dock for ABF and Caltrans (CT) QA to perform Ultrasonic Testing (UT) scanning pattern “D” per AWS D1.5 2002 figure 6.7 to detect transverse indications in the Complete Joint

Penetration (CJP) corner joints. D scan not yet performed by CT. CT QA inspector found that ZPMC broke 3 padeyes off of this CB while loading on the boat. The padeyes were welded to SPCM area of the side panels. This QA is aware of 3 incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB3

This crossbeam was brought back to the dock for ABF and Caltrans (CT) QA to perform Ultrasonic Testing (UT) scanning pattern “D” per AWS D1.5 2002 figure 6.7 to detect transverse indications in the Complete Joint Penetration (CJP) corner joints. Only the bottom corners are ground flush for D scan. CT performed “E” scan on deck panel to side panel welds. No transverse indications found. Total of 5 class A longitudinal indications found. CT D scan is incomplete. This QA is aware of 7 incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB4

This crossbeam is currently in the trial assembly. Fabrication appears to be essentially complete and ZPMC/ABF/CT segment green tagging appears to be complete with the exception of all the “hold back” welds; the “hold back” welds are defined as all of the weld joints at the North and South ends of the crossbeam that were intentionally left unwelded to allow for minor adjustment at the trial assembly stage of fabrication. This QA is aware of three incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB5

This crossbeam is currently idle and awaiting blast and paint. It is being stored outside behind OBG assembly bay 14. Fabrication appears to be essentially complete and ZPMC/ABF/CT segment green tagging appears to be complete with the exception of all the “hold back” welds. This QA is aware of eight incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB6

This crossbeam is currently idle and awaiting blast and paint. It is being stored outside behind OBG assembly bay 14. Fabrication appears to be essentially complete and ZPMC/ABF/CT segment green tagging appears to be complete with the exception of all the “hold back” welds. This QA is aware of three incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB7

The welding on this crossbeam appears to be 100% complete. It is being stored outside behind OBG assembly bay 14. ZPMC issued a segment green tag notification on 11/6/09 for QA to perform MT on tags 1~9 on this

crossbeam. This QA noted tag 9 welds have not yet been completed. These welds are for the Mechanical, Electrical Penetrations (MEPs) that are generally installed in trial assembly. CT QA Mr. D. Sukanthan discovered two longitudinal cracks in weld joint FB204-014-073. Mr. Sukanthan verified the cracks using the MT method. Mr. Sukanthan issued an incident report concerning the cracks in the above mentioned weld. CT QA completed all the MT on tags 1 thru 8 but has not signed off on any of the tags until above mentioned cracks are repaired and re-tested. This QA is aware of seven incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB8

The welding on this crossbeam appears to be 100% complete. It is currently located outside behind OBG assembly bay 13 and has been sitting idle this week. Last week QA observed ZPMC personnel flame straightening the bottom panel. ZPMC presented this QA with a variety of Heat Straightening Reports (HSRs) for various minor distortion issues. Segment green tagging notification has not yet been offered to Caltrans for this crossbeam. This QA is aware of four incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB9

The welding appears to be approximately 95% complete. It is currently located in OBG sub assembly bay 6. Currently ZPMC is finishing the welding. Segment green tagging notification has not yet been offered to Caltrans for this crossbeam. This QA is aware of two incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB10

The welding on this crossbeam appears to be 100% complete. It is being stored outside behind OBG assembly bay 14. ABF has performed a “D” scan of the side panel to bottom panel SPCM welds to detect transverse indications. ABF inspectors appear to have marked 8 locations on each of the above mentioned welds. Both of these welds are FCW. CT has not yet performed D scan on these welds. Segment green tagging notification has not yet been offered to Caltrans for this crossbeam. This QA is aware of four incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB11

The welding on this crossbeam appears to be 100% complete. It is currently located in OBG sub assembly bay 5. ZPMC is currently performing VT weld and base metal repairs. This QA wrote an incident report for performing vertical weld repairs in a downward progression and no QC present during the repairs. Downward welding is prohibited by AWS D1.5 2002. This QA noted that ZPMC UT technician has rejected the following welds: FB205-032-035, 039; FB205-031-035; FB204-032-063, 065, 069; FB204-031-060; FB204-030-063 and 069. Segment green tagging notification has not yet been offered to Caltrans for this crossbeam. This QA is aware

of two incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB12

The welding on this crossbeam appears to be 100% complete. It is currently being stored outside behind bay 15. Random in process Visual Testing (VT) performed by this QA has exposed numerous welds that do not appear to comply with the contract documents. ZPMC has performed numerous fillet weld repairs due to grinders removing too much of the welds in order remove deficiencies discovered by VT. This QA observed ZPMC has attempted unsuccessfully to straighten the south end of the bottom panel. ZPMC has submitted a second HSR for approval to straighten this panel. Segment green tagging notification has not yet been offered to Caltrans for this crossbeam. This QA is aware of four incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB13

Fit up of this crossbeam appears to be complete. It is currently located in OBG sub assembly bay 8. ZPMC has not yet started to weld it. QA VT of joint fit up revealed numerous excessive root openings where the panel stiffeners pass through the floor beams. Segment green tagging notification has not yet been offered to Caltrans for this crossbeam. This QA is aware of two incident reports concerning this crossbeam at this time. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB14

Fit up of this crossbeam appears to be approximately 80% complete. It is currently located in OBG sub assembly bay 3. Bottom panel is spliced and appears to be ready to be fit in the assembly. Sub-assembly green tagging appears to be complete. This QA is aware of six incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB15

Fit up of this crossbeam appears to be approximately 50% complete. It is currently located in OBG sub assembly bay 1. ZPMC has commenced fitting the side and intermediate panels to the deck panel this week. Sub-assembly green tagging appears to be approximately complete. This QA is aware of three incident reports concerning this crossbeam. All incident reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

OBG CROSS BEAM CB16

Fit up of this crossbeam appears to be approximately 90% complete. ZPMC is currently fitting the bottom panel to the side and intermediate panels. It is currently located in OBG sub assembly bay 5. Sub-assembly green tagging appears to be complete. This QA is aware of two incident reports concerning this crossbeam. All incident

reports have been submitted to the Structural Materials Representative (SMR), on the day the incident occurred, for review and disposition.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.

Summary of Conversations:

Only general conversation was held between QA and AC concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang (15000422372), who represents the Office of Structural Materials for your project.

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Patterson,Rodney	QA Reviewer